



# Concrete Conservation Framework for the Sydney Opera House

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## Abstract

The Sydney Opera House is famous for its innovative use of structural concrete and was included in the World Heritage List in 2007. This paper provides a brief overview of recent work focussed on the development of a Concrete Conservation Framework for the Sydney Opera House that was supported by the Getty Foundation through its 'Keeping It Modern' initiative, as well as the recent implementation into a Building Information Model with user-friendly graphical interfaces available for managers, the maintenance team and inspectors. Within this framework, each concrete component of the building is planned to be classified and associated with a methodology to assist the Sydney Opera House to determine the best way forward for its conservation in accordance with its Conservation Management Plan.

**Keywords:** Concrete conservation, conservation management plan, Sydney Opera House, World Heritage.

## 1 Introduction

The Sydney Opera House (SOH) is a world-class performing arts centre and is recognised internationally as a modern architectural masterpiece. Being one of Australia's premier tourism destinations, it attracts over 8 million visitors annually. The building is famous for its innovative use of structural concrete and was included in the World Heritage List in 2007. Its distinctive roof structure is formed by a set of ten shells made of spherical segments constructed of around 2200 precast concrete ribs, clad in around 4000 chevron-shaped prefabricated tile lids that support around a million ceramic tiles.

This paper provides a brief overview of recent work focussed at the development of a Concrete Conservation Framework (CCF) for the SOH supported by the Getty Foundation through its 'Keeping It Modern' initiative [1] and how this will be integrated within a Building Information Model during the implementation stage currently underway.

## 2 Brief overview of Concrete Conservation Framework

The SOH Concrete Conservation Framework (CCF) relies on the principles specified in the SOH Conservation Management Plan (CMP) [2] and in the SOH Enterprise strategy [3]. In particular, the